

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:

Ron Carmel

**SERIAL NO.:** 

09/675,811

**CONFIRMATION NO.: 1164** 

FILING DATE:

September 29, 2000

TITLE:

System, Method and Data Structure for Simulated Interaction with

**Graphical Objects** 

**EXAMINER:** 

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2128

## **CERTIFICATE OF MAILING**

I hereby certify that this paper is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: MAIL STOP: AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date printed below:

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## **INFORMATION DISCLOSURE STATEMENT**

Each item of information listed in the attached FORM PTO-1449, for which a copy of each is attached (unless the blanket waiver referred to below applies), may be material to the examination of the above-identified application and is, therefore, submitted in compliance with the duty of disclosure defined in 37 CFR §§ 1.56, 1.97 and 1.98. The Examiner is requested to review, consider and document each such item in the official record of this application.

Note: If this	s box is checked, this case was filed after June 30, 2003 and qualifies for
the blanket	waiver of deposit of copies of U.S. Patents and U.S. Patent Application
Publications	in accordance with the written waiver of 37 CFR §1.98 (a)(2)(i) dated July
11, 2003. A	ccordingly, such copies are not attached.
This Inform	ation Disclosure Statement under 37 CFR §§ 1.56, 1.97 and 1.98 is not to be
construed as	a representation that a search has been made, that additional information
material to t	he examination of this application does not exist, or that any one or more of
these items	constitutes prior art.
	I
This stateme	ent is filed pursuant to (CHECK ONE BOX):
	37 C.F.R. § 1.97(b).  This information disclosure statement is filed either:  (1) within three months of the filing date of a national application other than a continued prosecution application under §1.53(d);  (2) within three months of the date of entry of the national stage as set forth in 37 C.F.R. §1.491 in an international application;  (3) before the mailing date of a first office action on the merits; or  (4) before the mailing of a first office action after the filing of a Request for Continued Examination under 37 C.F.R. §1.114, whichever event occurs last.
	Accordingly, this information disclosure statement requires no fee and no certification.
	37 C.F.R. § 1.97(c).  This information disclosure statement is filed after the period specified in 37 C.F.R. § 1.97(b), but before the mailing date of any of the following:  (1) a final action under 37 C.F.R. § 1.113;  (2) a notice of allowance under 37 C.F.R. § 1.311; or  (3) an action that otherwise closes prosecution in the application.
	Accordingly, this information disclosure statement requires either:  (1) the fee specified in 37 C.F.R. § 1.17(p) for submission of an information disclosure statement under 37 C.F.R. § 1.97(c); or  (2) a certification according to 37 C.F.R. § 1.97 (e)(1) or (2).
	37 C.F.R. § 1.97(d).  This information disclosure statement is filed after the period specified in 37 C.F.R. § 1.97 (c).

Accordingly, this information disclosure statement requires:

- (1) a certification in accordance with 37 C.F.R. § 1.97(e); and
- (2) the fee specified in 37 C.F.R. § 1.17 (p) to consider an information disclosure statement under 37 C.F.R. § 1.97(d).

If this statement crosses in the mail with an office action, or is otherwise not in the indicated category of 37 C.F.R. § 1.97, it is respectfully requested that this statement be treated in the next appropriate category and made of record. To the extent required, please treat this paper as a conditional petition for acceptance of the information disclosure statement.

II

Fees Due (C	HECK ONE BOX):
$\boxtimes$	No fee is due.
	The fee specified in 37 C.F.R. § 1.17(p) for submission of an information disclosure statement under 37 C.F.R. § 1.97(c) or 37 C.F.R. § 1.97(d) is enclosed (\$180).
	III
Certification	(CHECK ONE BOX):
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	Pursuant to 37 C.F.R. § 1.97(e)(1), the undersigned hereby certifies:  That each item of information contained in this information disclosure statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this information disclosure statement.
	Pursuant to 37 C.F.R. § 1.97(e)(2), the undersigned hereby certifies:  No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this information disclosure statement was known to any individual designated in 37 C.F.R. §1.56(c) more than three months prior to the filing of this information disclosure statement.

IMMR-VTI0011A (034701-000089)

IV

I hereby declare that all statements made herein of my own knowledge are true and that

all statements made on information and belief are believed to be true; and further that

these statements were made with the knowledge that willful false statements and the like

so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18

of the United States Code and that such willful false statements may jeopardize the

validity of the application or any patent issued thereon.

Please charge any additional required fee or credit any overpayment to our deposit

account number 50-1698.

Respectfully submitted,

THELEN REID & PRIEST LLP

Dated: May 10, 2005

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Atty. Docket No. Serial No. IMMR-VTI0011A 09/675,811 (Rev. 2-32) U.S. Department of Commerce Patent and Trademark Office Applicant: Ron Carmel Information Disclosure Statement by Applicant Filed: Group: September 29, 2000 2128 (Use several sheets if necessary) **U.S. Patent Documents** Subclass Class Filing Date Document No. Date Name Init. Foreign Documents Translation No Country Class Subclass Yes Document No. Date Init. X JP 07/19/1990 2 185278 Α X 01/13/1992 JР  $\overline{\mathbf{B}}$ 4 8381 X 01/27/1995 Љ C 7 24147 X 08/03/1993 JP 5 192449 D Other Documents (Including Author, Title, Date, Pertinent Pages, etc.) Adelstein et al, "Design and Implementation of a Force Reflecting Manipulandum for Manual Control Research", DSC-Vol. 42, Advances in Robotics, pp. 1-12, 1992. Aukstakalnis et al., "Silicon Mirage: The Art and Science of Virtual Reality", pp. 129-180, 1992. F Baigrie, "Electric Control Loading - A low Cost, High Performance Alternative," Proceedings of G Interservice/Industry Training Systems Conference, pp. 247-254, November 6-8, 1990. Bejczy, "Sensors, Controls, and Man-Machine Interface for Advanced Teleoperation," Science, Vol. 208, Η No. 4450, pp. 1327-1335, June 20, 1980. Bejczy et al., "Generalization of Bilateral Force-Reflecting Control of Manipulators," Fourth CISM-Ī IFToMM Symposium of Theory and Practice of Robots and Manipulators, 14 pgs, September 8-12, 1981. Bejczy et al., "A Laboratory Breadboard System for Dual-Arm Teleoperation," SOAR '89 Workshop, JSC, J pp. 1-12, July 25-27, 1989. Bejczy et al., "Universal Computer Control System (UCCS) for Space Telerobots," CH2413-K 3/87/0000/0318501.00, pp. 318-324, March 31-April 3, 1987. Bliss, "Optical-to-Tactile Image Conversation for the Blind," IEEE Transactions on Man-Machine Systems, L Vol. MMS-11, No. 1, pp. 58-65, March 1970. Brooks et al., "Hand Controllers for Teleoperation - A State-of-the-Art Technology Survey and Evaluation," JPL Publication 85-11, NASA-CR-175890; N85-28559, pp. 1-84, March 1, 1985. Burdea et al., "Lecture Notes for Workshop on Force Display in Virtual Environments and its Application to Robotic Teleoperation", pp. 25-44, May 2, 1993. Calder, "Design of a Force-Feedback Tough-Introducing Actuator for Teleoperator Robot Control", O Bachelor of Science Thesis, MIT, May 1983. Eberhardt et al., "Inducing Dynamic Haptic Perception by the Hand: System Description and Some Results", DSC-Vol. 55-1, Dynamic Systems and Control: Volume 1, pp. 345-351, ASME 1994. Gobel et al., "Tactile Feedback Applied to Computer Mice," International Journal of Human-Computer Interaction, Vol. 7, No. 1, pp. 1-24, 1995. Date Considered Examiner

Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with the next communication to applicant.

Atty. Docket No. Serial No. IMMR-VTI0011A 09/675,811 U.S. Department of Commerce Patent and Trademark Office Applicant: Ron Carmel Information Disclosure Statement by Applicant Filed: Group: September 29, 2000 2128 (Use several sheets if necessary) **U.S. Patent Documents** Class Subclass Filing Date Name Document No. Date Init. Foreign Documents Translation Subclass Yes No Class Document No. Date Country Init. Other Documents (Including Author, Title, Date, Pertinent Pages, etc.) Gotow et al., "Controlled Impedance Test Apparatus for Studying Human Interpretation of Kinesthetic Feedback", Preceedings of the 1989 American Control Conference, pp. 332-337, June 21-23, 1989. Jacobsen et al., "High Performance, Dextrous Telerobotic Manipulator with Force Reflection", S Intervention/ROV '91 Conference & Exposition,pp. 213-218, May 21-23, 1991. Johnson, "Shape-Memory Alloy Tactile Feedback Actuator", "Armstrong Aerospace Medical Research Laboratory, AAMRL-TR-90-039, pp. 1-33, August, 1990. Kontarinis et al., "Tactile Display of Vibratory Information in Teleoperation and Virtual Environments", Ū Presence, Vol. 4, Number 4, pp. 387-402, Fall 1995. Kontarinis et al., "Display of High-Frequency Tactile Information to Teleoperators", SPIE, Vol. 2057, pp. 40-50, September 7-9, 1993. Kaczmarek et al., "Tactile Displays", Virtual Environment Technologies, Chapter 9, pp. 349-414. W Lake, "Cyberman from Logitech", at http://www.ibiblio.org/GameBytes/Issue21/greviews/cyberman.html, X 1994. Logitech Cyberman SWIFT Supplements to Logitech Mouse Technical Reference and Programming Guide, "Cyberman Technical Specification," pp. 1-29, April 5, 1994. Marcus, "Touch Feedback in Surgery", Proceedings of Virtual Reality and Medicine the Cutting Edge, pp. 96-97, Sep. 8-11, 1994. McAffee et al., "Teleoperator Subsystem/Telerobot Demonstrator: Force Reflecting Hand Controller AA Equipment Manual", January 1988. Minsky, "Computational Haptics: The Sandpaper System for Synthesizing Texture for a Force-Feedback AB Display", Ph.D. Dissertation, MIT, pp. 1-217, June 1995. Noll, "Man-Machine Tactile", Issue of SID Journal, July/August 1972. AC Ouh-Young, "Using a Manipulator Force Display", Force Display in Molecular Docking, pp, 1-369, 1990. AD Ouhyoung et al., "The Development of a Low-Cost Force Feedback Joystick and its Use in the Virtual AE Reality Environment", Proceedings of the Third Pacific Conference on Computer Graphics and Applications, Pacific Graphics '95, Seoul, Korea, pp. 309-319, August 21-24, 1995. Patrick, "Design, Construction, and Testing of a Fingertip Tactile Display for Interaction with Virtual and AF Remote Environments", Master of Science Thesis, MIT, pp. 1-109, August 1990. Patrick et al., "Design and Testing of a Non-Reactive, Fingertip, Tactile Display for Interaction with Remote AG Environments", Cooperative Intelligent Robotics in Space, Rui J. deFigueiredo et al., editor, Proc. SPIE, Vol. 1387, pp. 215-222, 1990. Date Considered Examiner Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with the next communication to applicant.

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